

CLAIMS

1. A planarizing support layer provided on a bumped surface of one of a bumped-die and bumped-wafer, the support layer comprising a pre-back-grind under-fill layer both to provide substantially planar back-grind wafer support during any back-grind process, and to provide under-fill material during any mounting/under-fill process.
2. A support layer as claimed in claim 1, the under-fill layer covering at least a substantial majority of bump-bodies of bumps on the bumped surface, while leaving a remainder portion of the bump-bodies exposed.
3. A support layer as claimed in claim 2, the support layer further comprising an adhesive protection tape including a flexible conforming layer applied to the under-fill layer, the conforming layer to cover the remainder portion of the bump-bodies not covered by the under-fill layer, to further improve a planarity of the support layer.
4. A support layer as claimed in claim 1, the under-fill layer covering an entirety of bump-bodies of bumps on the bumped surface.
5. A support layer as claimed in claim 4, the support layer further comprising an adhesive protection tape applied to the under-fill layer.

6. A support layer as claimed in claim 4, the under-fill layer being of a predetermined thickness beyond a height thickness of the bump-bodies, to provide additional under-fill material to under-fill structures other than the bumps during any mounting/under-fill process.

7. A support layer as claimed in claim 1, the under-fill layer comprising a polymer material.

8. A support layer as claimed in claim 1, the under-fill layer comprising one of a thermoplastic and thermoset polymer material.

9. A support layer as claimed in claim 1, the under-fill layer comprising one of a thermoplastic material, thermoset material, light-curable material and a chemical-curable material.

10. A support layer as claimed in claim 1, the under-fill layer comprising an opaque material to provide at least one of light, ultra-violet (UV) light, and radiation protection to a surface of the bumped-die or bumped-wafer.

11. A back-grind/mounting arrangement comprising one of a bumped-die and bumped wafer comprising: a planarizing support layer provided on a bumped surface of the bumped-die or bumped-wafer, the support layer comprising a pre-back-grind under-fill layer both to provide substantially planar back-grind wafer support during any back-grind process, and to provide under-fill material during any mounting/under-fill process.

12. An arrangement as claimed in claim 11, the under-fill layer covering at least a substantial majority of bump-bodies of bumps on the bumped surface, while leaving a remainder portion of the bump-bodies exposed.

13. An arrangement as claimed in claim 12, the support layer further comprising an adhesive protection tape including a flexible conforming layer applied to the under-fill layer, the conforming layer to cover the remainder portion of the bump-bodies not covered by the under-fill layer, to further improve a planarity of the support layer.

14. An arrangement as claimed in claim 12, the arrangement further comprising a secondary under-fill layer to under-fill at least one of: the remainder portion of the bump-bodies not covered by the under-fill layer, and structures other than the bumps as encountered during any mounting process.

15. An arrangement as claimed in claim 11, the under-fill layer covering an entirety of bump-bodies of bumps on the bumped surface.

16. An arrangement as claimed in claim 15, the support layer further comprising an adhesive protection tape applied to the under-fill layer.

17. An arrangement as claimed in claim 15, the under-fill layer being of a predetermined thickness beyond a height thickness of the bump-bodies, to provide additional under-fill material to under-fill structures other than the bumps as encountered during any mounting process.

18. An arrangement as claimed in claim 11, the under-fill layer comprising a polymer material.
19. An arrangement as claimed in claim 11, the under-fill layer comprising one of a thermoplastic and thermoset polymer material.
20. An arrangement as claimed in claim 11, the under-fill layer comprising one of a thermoplastic material, thermoset material, light-curable material and a chemical-curable material.
21. An arrangement as claimed in claim 11, the under-fill layer comprising an opaque material to provide at least one of light, ultra-violet (UV) light, and radiation protection to a surface of the bumped-die or bumped-wafer.
22. An arrangement as claimed in claim 11, wherein the arrangement is a flip-chip back-grind/mounting arrangement.
23. A back-grind/mounting method useable with either one of a bumped-die and bumped wafer, the method comprising: providing a planarizing support layer on a bumped surface of the bumped-die or bumped-wafer, the support layer comprising a pre-back-grind under-fill layer both to provide substantially planar back-grind wafer support during any back-grind process, and to provide under-fill material during any mounting/under-fill process.

24. A method as claimed in claim 23, the under-fill layer covering at least a substantial majority of bump-bodies of bumps on the bumped surface, while leaving a remainder portion of the bump-bodies exposed.

25. A method as claimed in claim 24, the support layer further comprising an adhesive protection tape including a flexible conforming layer applied to the under-fill layer, the conforming layer to cover the remainder portion of the bump-bodies not covered by the under-fill layer, to further improve a planarity of the support layer.

26. A method as claimed in claim 24, the method further comprising: providing a secondary under-fill layer to under-fill at least one of: the remainder portion of the bump-bodies not covered by the under-fill layer, and structures other than the bumps as encountered during any mounting process.

27. A method as claimed in claim 23, the under-fill layer covering an entirety of bump-bodies of bumps on the bumped surface.

28. A method as claimed in claim 27, the support layer further comprising an adhesive protection tape applied to the under-fill layer.

29. A method as claimed in claim 27, the under-fill layer being of a predetermined thickness beyond a height thickness of the bump-bodies, to provide additional under-fill material to under-fill structures other than the bumps as encountered during any mounting process.

30. A method as claimed in claim 23, the under-fill layer comprising a polymer material.

31. A method as claimed in claim 23, the under-fill layer comprising one of a thermoplastic and thermoset polymer material.

32. A method as claimed in claim 23, the under-fill layer comprising one of a thermoplastic material, thermoset material, light-curable material and a chemical-curable material.

33. A method as claimed in claim 23, the under-fill layer comprising an opaque material to provide at least one of light, ultra-violet (UV) light, and radiation protection to a surface of the bumped-die or bumped-wafer.

34. A method as claimed in claim 23, wherein the method is a flip-chip back-grind/mounting method.